

# RFM96W™

Wireless Modem

- *Reliable* - RF modem designed for high performance applications where up to 100% duty cycle and all-weather operation is required.
- *Fast* - state-of-the-art technology provides high data throughput for advanced field data applications.
- *Intelligent* - multi-protocol capabilities include transparent, packet-switched and fast asynchronous data communication depending on the system requirements. Digipeater technology extends the range of your radio data network.
- *Compact* - small size and light weight makes the RFM96W ideal for portable use.
- *Powerful* - receive-only, low, and high power versions provide the range required for most applications.

The RFM96W radio modem family provides high performance and high reliability wireless data communication. Designed specifically for portable and mobile field applications, the rugged RFM96W features 100% duty cycle operation, various RF power outputs, and compact size. Advanced techniques such as forward-error-correction with data scrambling enable reliable operation in low or fading signal conditions.

The RFM96W features a watertight design for operation in unprotected environments common in field applications. Models are available with receive only, 2W, or 35W RF power outputs. 35W units can be switched to 2W operation for power conservation or use in activities where low power output is appropriate. All models feature a fully synthesized multi-channel radio that allows operation on all frequencies in the supported UHF or VHF bands.

Standard equipment includes a comprehensive user's manual with programmer's guide, power/data cable and configuration software. Optional power

Wireless data link  
designed for high  
performance DGPS  
and other field data  
applications.



supplies, antennas, and antenna mounts are also available.

Pacific Crest Corporation stands behind its products with a one-year parts and labor warranty. Extended warranty protection is available for expedited repair/replacement service.

Contact your local sales representative or Pacific Crest Corporation for additional information.



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## GENERAL SPECIFICATIONS

<b>Interface</b>	RS-232 compatible interface. User configurable for common baud rates to 38,400 and parity. Interface does not require hardware handshake control.
<b>Power Requirements</b>	External power supply range of 10-15 VDC. Receive only – 0.6W 0.5W RF – 1.2W, 7.5W during TX. 2W RF – 1.2W, 10.2W during TX. 35W RF – 1.8W, 100W during TX.

## MODEM SPECIFICATIONS

<b>Link Rate</b>	9600, 4800 baud.
<b>Transmission Protocols</b>	Fast asynchronous, transparent, packet switched, and digipeater.
<b>Modulation</b>	Gaussian Minimum Shift Keying (GMSK) baseband modulation with programmable transmit BT of 0.5 or 0.3.
<b>FEC Protocol</b>	Hamming code (12,8) with data interleave for burst error correction up to 20 consecutive bits in transparent and packet modes of operation.

## RADIO SPECIFICATIONS (per ETSI-300 220-1)

<b>General</b>	Synthesized frequency control. Channel spacing resolution of 12.5 kHz or 25 kHz depending on model. Frequency stability 2.5ppm (1ppm option available). Refer to price list for available frequency bands.
<b>Transmitter</b>	Receive only, 0.5W, 2W, & 35W RF power ( $\pm 20\%$ ) versions available. Modulation distortion $< 5\%$ . Duty cycle 100%. Transmitter attack time $< 16\text{ms}$ . Spurious and harmonic FM -55dBc. FM hum and noise -40dB.
<b>Receiver</b>	Sensitivity -117dBm (12 dB SINAD). Adjacent channel selectivity -70dB (25kHz). Spurious and image rejection -70dB. Intermodulation -70dB. FM hum and noise -40dB. Conducted spurious -57dB.
<b>Type Acceptance</b>	All models are type accepted and certified for operation in the European Community.

## ENVIRONMENTAL SPECIFICATIONS

<b>Operating temp.</b>	-30° to 60° C (-22° to 140°F).
<b>Non-operating temp.</b>	-55° to 85° C (-67° to 185°F).
<b>Vibration/Shock</b>	IEC 68-2-55.
<b>Enclosure</b>	IEC 144/855420 I.P. 66 Dust-tight and watertight.

## MECHANICAL SPECIFICATIONS AND CONNECTORS

<b>Dimensions</b>	Receive only – 7.0cmW x 2.9cmH x 9.3cmL. (2.75"W x 1.15"H x 3.66"L). 0.5W, 2W – 7.0cmW x 2.9cmH x 13cmL (2.75"W x 1.15"H x 5.2"L). 35W – 10.9cmW x 9.4cmH x 13cmL (4.3"W x 3.7"H x 5.2"L).
<b>Weight</b>	Receive only – 0.2kg (7ounces). 0.5W, 2W – 0.26kg (9 ounces). 35W – 1.25kg (2lbs. 12 ounces).
<b>RF Connector</b>	Environmentally sealed BNC (50 $\Omega$ ).



*Receive only RFM96W.  
(actual size)*



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M00129-1/98